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The development of a project evaluation model for basic education institutions

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Abstract

Main objective of this research is to develop project evaluation model for basic education institutions, under Office of The Basic Education Commission, Ministry of Education. The specific objective focuses on identifying indicators to prove the efficiency of project evaluation model for basic education institutions, Office of The Basic Education Commission, Ministry of Education. The indicators include Appropriateness Index, Possibility Index, and Congruence Index of project evaluation model for basic education institutions, Office of The Basic Education Commission, Ministry of Education, as well as model test results and model evaluation results.

Keywords: project evaluation model, model development, Delphi, evaluation standards;

1. Introduction

Project evaluation is considered essential for every organization because it is well-known that any and all work or projects tend to have different risk margins. If, however, we employ utility or information from previous evaluations of experiences to thoroughly analyze circumstances, plan systematically and establish clear, concise protocol, the chance for success tends to increase. Or if erroneous thinking occurs, it is likely to be minimal rather than severe. However, severity will increase if the problem or error is not checked and resolved. Therefore, evaluation results are good motivation for use in making decisions in various situations which will result in the successful achievement of set goals.

Evaluation holds scientific importance for numerous fields whereby evaluation results provide valuable information in various aspects of decision-making as stated by Sirichai Kanchanawasee (1994), who asserted the importance of evaluation as follows:

" Administration - The results can be used as administrators' instruments for governing and following up on work performance to assure that it is according to effective and efficient plans.

Psychology - Evaluation can be used as a strategy for triggering interest and building work awareness among workers.

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Political Science – Evaluation can be used as an instrument of checking on accountability and as a strategy in building public support."

In addition, evaluation can be utilized in planning and administrating work. For example, evaluation helps in obtaining information to be used in making decisions about setting work plans and projects, checking the readiness of various resources necessary for use in work performance and the feasibility of holding activities. Evaluation also helps in the procurement of progressive information. The problems and obstacles of work performance can be used in making decisions about improving work or changing/solving the performance of projects so they go in the desired direction. Evaluation further helps in the procurement of information about the successes and failures of activities used in decision-making and contemplating whether or not future performance should be cancelled or expanded upon. Evaluation helps obtain information that indicates the cost efficiency of performance and whether or not a performance is cost effective while also serving as motivation for workers to receive information about work performance and using information in improving and developing efficiently.

This research was conducted for the main purpose of developing a project evaluation model for basic education institutions under the Office of the Basic Education Commission, Ministry of Education, with the following specific objectives:

1. To create a project evaluation model for basic education institutions under the Office of the Basic Education Commission, Ministry of Education.

2. To show evidence and indicators of the efficiency of the project evaluation model for basic education institutions under the Office of the Basic Education Commission, Ministry of Education, comprising the propriety, feasibility and congruence indices of the project evaluation model for basic education institutions under the Office of the Basic Education Commission, Ministry of Education; the results of the trial use of the project evaluation model for basic education institutions under the Office of the Basic Education Commission, Ministry of Education and the results of the evaluation of the project evaluation model for basic education institutions under the Office of the Basic Education Commission, Ministry of Education.

2. Research Methodology

The research was conducted in order to develop a project evaluation model for basic education institutions under the Office of the Basic Education Commission, Ministry of Education. The researcher designed the methodology for conducting the study with two main steps including the following details for carrying out each step:

2.1. Synthesis for the Development of the Model

The synthesis for developing a draft for this model comprised the study of documents and text books with the collection of data and information from different related sources and the survey of the conditions of project evaluation for basic education institutions under the Office of the Basic Education Commission, Ministry of Education, for application to the consideration and formation of guidelines and preparation of the model, which included the following details:

2.1.1. The study and analysis of related concepts, theories, documents and research which were studied via the internet, text books, journals, documents, studies related to project evaluation both domestically and abroad, and from interview with people involved in project evaluation for basic education institutions, i.e. educational administrators who perform duties in educational service areas, administrators of small, medium and large-sized basic education institutions, teachers working in school planning and policy for a total of 15 people altogether.

2.1.2. Concepts were set for implementation in placing the project evaluation model for basic education institutions after the researcher had studied the abovementioned concepts, collected data and categorized data groups, conducted

analysis, applied the results of the analysis to synthesis and set concepts for the implementation of the drafted model.

2.1.3. Drafting the model - The concepts obtained from 1.2 were drafted into a model which comprised two sections, i.e. the structure for the project evaluation model for basic education institutions and the processes for evaluating the projects of basic education institutions.

2.2. Model Quality Index

The evaluation of projects for basic education institutions under the Office of the Basic Education Commission, Ministry of Education with the following details:

2.2.1. Study of the Propriety and Feasibility of the Project Evaluation Model for Basic Education Institutions under the Office of the Basic Education Commission, Ministry of Education – The model that was developed by using the improved Delphi Technique and by consensus in the second round in which the criteria for consideration of the level of consensus was an opinion level of 75%. The stability of the responses from the changes in the consensus was then considered with increases or decreases of no less than 20% when compared with the previous round (Murry; & Hammond. 1995) The consensus obtained was then used to calculate the Propriety Index (PI) and the Feasibility Index (FI). The criteria for the consideration of the Propriety Index and the Feasibility Index were Propriety and Feasibility Indices that were more than or equal to 80 and the consensus obtained was then used to calculate the Congruence Index. The criteria for consideration of the Congruence Index were index values more than or equal to .80, i.e. an error margin of only .20, or 20% was allowed.

2.2.2. Trial implementation of the project evaluation model for basic education institutions was for real situation at this step. The researcher conducted trial implementation in a sample group comprising three schools classified by size with one school of each size.

2.2.3. Evaluation of the Project Evaluation Model for Basic Education Institutions – At this step, the research submitted the completely revised Project Evaluation Model for Basic Education Institutions to a panel of persons involved in project evaluation, i.e. administrators and teachers who had been involved in the trial implementation of the model at three schools and five experts with experience in the field of evaluating projects for basic education institutions who evaluated the model by using the assessment form for assessing project evaluation models for basic education institutions which was based on a 4-level rating scale the researcher had created by using the criteria of Joint Committee on Standards for Education Evaluation for evaluating documents and projects which are categorized into four sections, i.e. Utility Standards, Feasibility Standards, *Propriety*Standards and Accuracy Standards (Madaus; et al. 1983).

3. Data Analysis

The data for this research was analyzed as follows:

1. The data obtained from the interviews which were the opinions used to draft the type of project evaluation model for basic education institutions submitted to content analysis.

2. The data obtained from the completion of the questionnaires by using the improved Delphi Technique to analyze by finding the propriety, feasibility and congruence index values, which the researcher considered as follows:

The Propriety Index (PI) by using the formula: $PI = (P_1+P_2)/ 2$

When PI means the Propriety Index value.

P_1 means the percentage of the opinions the first round of inquiry.

P_2 means the percentage of the opinions in the second round of inquiry.

The Feasibility Index (FI) by using the formula: $FI = (P_1+P_2)/ 2$

When FI means the Feasibility Index value.
P_1 means the percentage of the opinions the first round of inquiry.
P_2 means the percentage of the opinions in the second round of inquiry.

Whereby the criteria in the consideration of the propriety and feasibility index values are greater than or equal to .80.

The Congruence Index used the formula:

$$CI = 1 - \frac{|P_1 - P_2|}{100}$$

When CI means the Congruence Index value.
P_1 means the percentage of the opinions the first round of inquiry.
P_2 means the percentage of the opinions in the second round of inquiry.

The criteria for the consideration of the Congruence Index value is an index value that is greater than or equal to .80, i.e. an error margin of only .20, or 20%, is acceptable.

3. The data obtained from the collection during the performance of the experimental use of the project evaluation model for educational institutions was analyzed in terms of frequency, percentage and content analysis.

4. The data obtained from the evaluation of the project evaluation model for basic education institutions was analyzed by finding the mean and standard deviation, then testing the congruence by the Kruskal-Wallis one way analysis of variance by ranks (Siegel S. 1956; 185; Citing Kruskal; & Wallis. 1952).

4. Research Findings and Discussion

1. Project evaluation models for basic education institution contain elements consisting of the structures of project evaluation models for basic education institution in terms of project context, input factors, process, product, impact and modification. The steps of project evaluation for basic education institutions includes steps for project evaluation contexts consisting of specifications of school vision, project objectives, indicators of project success, analysis of project settings; steps for evaluating input factors evaluating project input factors in terms of manpower, materials, money, management, process and evaluated processes of each minor project activity, whether or not activities are according to plan, and what obstacles were incurred during the process. The steps for product evaluation assess the results from the project in line with indicators of success as to whether or not the project achieved set goals. If the project was unsuccessful, causal analysis must be conducted to identify the problems and obstacles encountered. The steps for impact evaluation assess project impacts on students, teachers, education personnel, schools and community projects. The steps for modification evaluation specified guidelines for implementation of information acquired from project evaluation as baseline data for further project improvement in terms of input factors and methodology. The findings can be discussed as follows:

1.1 Project Context was consistent with the concept of Daniel L. Stufflebeam (2003; Online) who stated that context evaluation was an evaluation of needs to help with the definition and evaluation of project goals.

1.2 Input was congruent with the concept of Daniel L. Stufflebeam (2003; Online) who stated that evaluation of input factors was an evaluation of guidelines or other alternative approaches and a guideline for evaluating plans.

1.3 Process was congruent with the concept of Daniel L. Stufflebeam (2003; Online) who stated that process evaluation was a guideline supporting efforts in line with set activities and helpful in interpreting outcomes. Provus (Provus, 1969) supplied the definition of evaluation as a comparison of results with standards to discover inconsistencies between expectations and results. Provus explained that there were five types of inconsistencies which can be studied from use of work plans that were inconsistencies unrelated to various steps consisting of project design, which was the setting of factors to create work performance, specifying work protocol and identifying expected outcomes from work performance. Preparations involves taking factors that form work performance into protocol, performance according to plans, products of projects, cost analysis and profit.

1.4 Product was congruent with the concept of Daniel L. Stufflebeam (2003; Online) who stated that product evaluation was an evaluation of the outcomes of projects and helpful in writing reports on project success. Tyler (Tyler, 1969), who was a key leader in project evaluation, defined evaluation as a comparison of behaviors with set behavioral goals with the belief that clear, concise and specific set goals will become guidelines to help with subsequent evaluations. He proposed concepts regarding evaluation with focus on the setting of project objectives in the form of behavioral objectives then evaluating the success of those objectives with the concept that the success of a project can only be realized in project products according to set goals.

1.5 Impact was consistent with the concept of Tawisak Ariyawatwong (2551; 18) who conducted impact evaluations and displayed concepts with direct and indirect, positive and negative impacts. Evaluation results show whether or not a project has achieved its objectives and whether or not the methodology for carrying out the project should be modified, which steps encountered problems and obstacles, and whether or not the product met set objectives. Impact evaluation has benefits for executives and persons involved in the project in helping to make decisions about whether or not the project should be continued, or whether there should be modifications and improvements in plans and practices so projects for the improvement of student discipline can be more efficient and effective. Projects need to be evaluated in order to improve student discipline at Wat Raiking Wittaya and the impact evaluation can be defined as effects caused by direct and indirect consideration of changes in persons and product as regards what happened with students and what students acquired from participation in the project after the completion of the work performed in line with the project, i.e. punctuality, self-confidence, practice in line school and social rules, responsibility, respect for the rights of others, patience and leadership.

1.6 Modification was congruent with the concept of Tawisak Ariyawatwong (2551; 18) who stated that modification was a significant part in systematic work administration. School administrators should be aware of these issues which will complete the steps of work and become related to true implementation and correction of work because it involved analysis of the evaluation. There may be some things which continue to be unsatisfactory or continue to fail to meet objective. Therefore, consideration must be given to setting guidelines for further corrections and improvement. Improvements, modifications, or corrections are steps or methods of examining conflicts between objectives and evaluation results to determine which part of a system requires improvements or corrections, or whether the entire system requires improvements, modifications and corrections.

2. The findings regarding propriety and feasibility of the project evaluation model for basic education institutions revealed that all elements in the area of structure and steps of project evaluation for basic education institutions between the first and second rounds on issues of propriety and feasibility to have received a consensus in Round2 . Moreover, the findings had propriety, feasibility and congruence indices that met set criteria. This validated the aforementioned model in terms of quality for effective implementation which clearly reflected that, when the aforementioned model was actually implemented in education institution samples, the aforementioned model was able to follow various steps. According to the consideration of propriety and feasibility by experts, both elements of the model were found to not require any modification, possibly because the researcher in this study created this model from the synthesis of documents by emphasizing the significant concepts of project evaluation combined with interviews of persons involved in project evaluation for basic education institutions and the selection of experts to consider the propriety and feasibility of the project evaluation model for basic education institutions, all of whom were persons with expertise and experience in project evaluation. Hence, the model created in this study is qualified for actual implementation in education institutions. Furthermore, results from the implementation of the model can provide information concerning further work performance results for development and decision-making.

3. Results of the Trial Implementation of the Project Evaluation Model for Basic Education Institutions.

Evaluation commissions at the school level were able to conduct all evaluation steps, possibly because the evaluation steps according to the model developed by the researcher were congruent with existing concepts for project evaluation in Thailand, thereby leading to understanding of the steps and successful project evaluation.

4. Evaluation Results of Project Evaluation Models for Basic Education Institutions.

According to the evaluation of project evaluation models for basic education institutions in terms of utilization, feasibility, propriety and accuracy, all areas were found to have received the approval of evaluators at levels of “high” to “highest”. When considered in terms of the overall view of all four standards, evaluators were found to

have a high level of agreement. When congruence of the evaluation results was considered, all three groups of evaluators were found to have congruent opinions on all issues and in terms of the general view, possibly due to the fact that the project evaluation model for basic education institutions created by the researcher was acquired from the synthesis of documents, interviews with persons involved in evaluations and the consideration of the model by experts by using the improved Delphi Technique for two rounds, which made the model accurate, feasible for implementation, proper and beneficial for evaluation commissions and education institutions.

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